EDITORIAL.

ASTRONOMERS are not alone in appreciating the interest which attaches to the newly discovered planet DQ. Its peculiarities promise to be suggestive at least in respect to questions of planetary origin in which geologists are concerned almost equally with astronomers. The new planet breaks across that rather forcefully deduced law of symmetry which has been thought to prevail throughout the solar system and which has been somewhat too influential perhaps in controlling hypotheses of its origin. The little stranger pays no respect to Bode's law, and is eccentric in other particulars. Its mean position lies between the earth and Mars, and its period of revolution is 645 days, while that of Mars is 687. Its orbit, however, is so eccentric that in aphelion the planet's path lies far outside of the Martian orbit in the zone of the asteroids, while in perihelion it passes within fourteen million miles of the earth, according to the provisional computations made from the earlier observations. One of the most interesting features of the new planet lies in the fact that its velocity at perihelion is greater than that of the earth, although it is farther from the sun. Should the two orbits be brought into coincidence by a suitable perturbation and a collision ensue, the velocity of the outer body would be the greater, at the moment of collision, though on the average it would necessarily be less. The effect of such a collision on the rotation of the earth would depend upon the particular point at which the stroke of the smaller planet was dealt. The probabilities, however, are in favor of a stroke which would accelerate the present *direct* rotation of the earth, or which would, if the earth had no rotation, impart to it a rotation in the same direction as that which it now possesses. It has been urged that meteoroidal bodies revolving in a ring around the sun would, on

union by collision, give rise to *retrograde* rotations, because the orbital velocities of the inner bodies are the greater, and this has been regarded as a serious objection to the aggregation of the earth and all but the outermost planets from a ring of discrete matter of the type of the Saturnian rings as distinguished from an aggregation from a gaseous ring after the manner of the Laplacean hypothesis. (Faye, *Sur l'Origine du Monde*, 1896, pp. 165, 270–281). The writer has, however, pointed out that, if the aggregation of such discrete matter took place through the development of eccentric orbits which cut each other's paths and thus led to collision, the bodies pursuing the outer orbits would be moving faster *at the points of collision* than those pursuing the inner orbits, and that on the average the rotations resulting from the collisions would be direct (A group of Hypotheses Bearing on Climatic Changes, JOURNAL OF GEOLOGY, Vol. V, No. 7, 1897, p. 668). The new planet furnishes us with a concrete illustration of the principle urged. It has been estimated that, at the time of its greatest approximation, the new planet will be moving 500 feet per second faster than the earth, a figure which is doubtless subject to considerable correction from fuller data. The discovery of this rather erratic body has renewed the previous suggestion that small planetoids may not be rare in other tracts than the asteroidal belt between Mars and Jupiter. It will doubtless have some influence in reopening for renewed consideration the mode of aggregation and the past history of the solar system, a consideration which has been rendered opportune by the serious, if not fatal, objections to the accepted gaseous hypothesis which have arisen from the application of the kinetic theory of gases. T. C. C.